REMARKS

In view of the above amendments and the following remarks, reconsideration and further examination are respectfully requested.

The specification and abstract have been reviewed and revised to improve their English grammar as well as address the informalities identified on page 2 of the Office Action. Specifically, as requested in the objection, the abstract has been amended to comply with the requirements identified by the Examiner. Therefore, withdrawal of this objection is respectfully requested.

These amendments to the specification and abstract have been incorporated into a substitute specification and abstract. Attached are two versions of the substitute specification and abstract, a marked-up version showing the revisions, as well as a clean version. No new matter has been added.

Dependent claim 2 has been cancelled without prejudice or disclaimer of the subject matter contained therein. Independent claims 1, 11, and 13 have been amended to include limitations which are similar to those previously recited in cancelled claim 2. New claims 15 and 16 have been added to depend from claim 1.

It is also noted that claims 1 and 3-14 have been amended to make a number of editorial revisions thereto. These editorial revisions have been made to place the claims in better U.S. form. Further, these editorial revisions have not been made to narrow the scope of protection of the claims, or to address issues related to patentability, and therefore, these amendments should not be construed as limiting the scope of equivalents of the claimed features offered by the Doctrine of Equivalents.

Claims 1-14 were rejected under 35 U.S.C. § 102(e) as being anticipated by Rautenbach et al. (U.S. 2002/0165848). This rejection is believed clearly inapplicable to amended claims 1 and 3-14 and new claims 15 and 16 for the following reasons.

Amended independent claim 1 recites a garbage collection system including, in part, a selection unit (operable to select threads of a program one at a time), a detection unit (operable to detect an object pointer that has been processed as a processing target by a currently-executed

thread and manage an object identified by the detected object pointer as a non-freeing target), and an examination unit (operable to examine a selected thread by stopping execution of the thread). Further, claim 1 recites that only prior to a currently-executed thread being subject to examination by the examination unit, the detection unit is operable to detect an object pointer that has been processed as a processing target by the currently-executed thread, store the object pointer detected as the processing target and an object pointer in an object that can be reached from the object pointer detected as the processing target, and manage an object identified by the object pointer detected as the processing target, as a non-freeing target. The Rautenbach reference fails to disclose or suggest the above-mentioned distinguishing features as recited in independent claim 1.

Rather, Rautenbach teaches that garbage collection is performed by suspending execution of a thread to be inspected to allow the garbage collection to inspect the entire contents of the stack, and then resuming execution of the inspected thread (see paragraph [0563], lines 7-10, paragraph [0609], lines 5-10, and paragraph [0814], lines 6-8).

Thus, in view of the above, it is clear Rautenbach teaches that, in order to perform garbage collection, execution of a thread is suspended to allow inspection of the entire thread, but does not disclose or suggest that, only prior to a currently-executed thread being subject to examination by the examination unit (examination which stops execution), the detection unit detects, stores, and manages an object identified by the object pointer detected as the processing target, as a non-freeing target, as required by independent claim 1.

In other words the garbage collection, as described by Rautenbach, requires stopping of the execution of the thread to be inspected. On the other hand, claim 1 recites that a non-freeing target is identified only prior to a thread being subject to examination which stops execution. These differences are such that Rautenbach does not disclose or suggest the features required by claim 1. Therefore, because of the above-mentioned distinctions it is believed clear that claim 1 and claims 3-10, 15, and 16 which depend therefrom are not anticipated by Rautenbach.

Furthermore, there is no disclosure or suggestion in Rautenbach or elsewhere in the prior art of record which would have caused a person of ordinary skill in the art to modify Rautenbach

to obtain the invention of independent claim 1. Accordingly, it is respectfully submitted that independent claim 1 and claims 3-10, 15, and 16 which depend therefrom are clearly allowable over the prior art of record.

Amended independent claims 11 and 13 recite a method and computer program, respectively. Amended claims 11 and 13 recite features that correspond to the above-mentioned distinguishing features of independent claim 1 (e.g., managing a non-freeing target that is identified only prior to a thread being subject to examination). Thus, for the same reasons discussed above, it is respectfully submitted that independent claims 11 and 13 and claims 12 and 14 which depend therefrom are allowable over Rautenbach.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance and an early notification thereof is earnestly requested. The Examiner is invited to contact the undersigned by telephone to resolve any remaining issues.

Respectfully submitted,

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